Georgia Bio Names Statesboro High School Junior as 2024 Georgia BioGENEius Winner

Statesboro & Kennesaw Teens Take Top Honors in Statewide Science Competition

GaBio Logo

ATLANTA, GEORGIA, USA, April 24, 2024 /EINPresswire.com/ -- Georgia Bio today named Sanan Khairabadi, a junior at Statesboro High School, the winner of the 2024 Georgia BioGENEius Challenge, the premier competition for high school students that recognizes outstanding research and innovation in the biotechnology field. Fourteen students from across Georgia competed for the title and cash prizes sponsored by Evans General Contractors.

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> *Georgia Bio President and CEO Maria Thacker*

Sanan's project investigated the potential of enzymes found in Pseudomonas bacteria to degrade low density polyethylene (LDPE). This study reviewed the genomes of these species to identify candidate enzymes that should be isolated for further research into their ability to degrade LDPE. Enzymes that can degrade LDPE have been identified, but before Sanan's project, there was little to no research on the presence of these enzymes within bacteria like Pseudomonas. Sanan looked for enzymes that could be used in the degradation pathway within the genomes of several species of Pseudomonas and found a correlation between a species' ability to break down LDPE and the number of enzymes present that could take part in the plastic degradation pathway. Next steps include purifying enzymes to test their degradation efficiencies, analyzing the protein structures to understand their functions, and studying protein expression to help model a potential LDPE degradation pathway. This research also helps to identify enzymes that could be altered through genetic engineering to increase their ability to break down LDPE.

"The future of the biotech industry lies within the minds of young students today, and the BioGENEius Challenge recognizes that fact by investing in and showcasing their valuable scientific innovations," said Georgia Bio President and CEO Maria Thacker. "We, as an

organization, are incredibly proud of Sanan and the time, effort, and curiosity she put forth leading up to this accomplishment. Georgia Bio looks forward to supporting this bright Georgia scholar in her future endeavors. Well done, Sanan!"

Georgia Bio also congratulates the Georgia BioGENEius runner-up, Eugene Kang, who is a sophomore at Harrison High School in Kennesaw, GA. Eugene's research investigated the anticarcinogenic effects of an extract from Perfoliate Bellwort (Uvularia perfoliata), a perennial wildflower native to the eastern coast of North Ameria. This plant is edible and is known for its medicinal properties in treating boils, wounds, and ulcers. Eugene applied the extract to human uveal melanoma cells and found that the highest concentration of the extract resulted in a 10.78% decrease in cell viability and an efficacy of 48.28% compared to the control, puromycin, which is a known cytotoxic agent. This research represents the first step in evaluating a natural biologic for its ability to treat cancer. Biologics have fewer side effects than traditional cancer treatments like chemotherapy and radiation. Further research will be needed to determine whether this extract can distinguish between cancer cells and healthy cells. Additionally, Eugene's methods resulted in a more dilute extract than many similar studies, so further study will be needed to test this extract at a concentration consistent with standard methodology for evaluating effectiveness of a potential drug.

Judging the 2024 Georgia BioGENEius Challenge were Jamie L. Graham, Meso Scale Diagnostics; Ralph L. Cordell, CDC; and Alex Harvey, ViaMune, Inc. Cash prizes were awarded to Sanan and Eugene made possible by a generous donation from Evans General Contractors.

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About Georgia Bio
Georgia Bio (GaBio) is the state's most impactful life sciences membership organization, advocating for the sector and its diverse innovation pipeline. For over 30 years, GaBio has served its members by supporting companies of all sizes, from early-stage innovators and startups to established industry leaders in biotechnology, pharmaceuticals, and medical technology. GaBio also works closely with universities, academic and research institutions, the investment community, and other critical partners that promote this vibrant sector. GaBio works to shape public policy, improve access to breakthrough technologies, educate lawmakers, provide member programs, strengthens the workforce pipeline, and advance equity within our ecosystem by championing innovative solutions for some of the most pressing challenges of our times. For more information, visit www.gabio.org.

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